time while the belt is retrieved and fed through the friction buckle. As opposed to feeding a belt through two narrow slots in a friction buckle, the large metal hook of the preferred embodiment of the invention is simply hooked on to the pin in the ratchet.

[0012] Likewise, the typical ratchet tourniquet (FIGS. **2**A and **2**B) is cumbersome due to the need to pass the injured extremity through the loop. Overall, the preferred embodiment of the present invention can be applied within 4-5 seconds with practice. Most importantly, the resulting application is very secure and should not dislodge with further medical evacuation.

[0013] The main use for the disclosed tourniquet is in wartime situations where bleeding must be controlled quickly while possibly under enemy fire. In this situation, the tourniquet application must be rapidly with as few steps as possible. The resulting application must also be secure enough to ensure continued bleeding control during rough medical evacuation.

[0014] It is an object of the present invention to enable the rapid and secure application of a tourniquet under extreme conditions through the incorporation of a flat metal hook into the belt of a ratchet tourniquet, allowing the loop to open up. This hook is broad to keep the belt from twisting during application and to ensure a stable bond to the ratchet. The broad width of the hook allows the connection to swivel up and down, not side to side, allowing the connection to conform to the body surface. Using a hooking mechanism as opposed to a friction buckle significantly lessens application time and effort.

[0015] It is another object of the present invention to improve the certainty of effective placement and the speed of application of the tourniquet in cramped environments such as vehicles, and when the limb has suffered severe disfiguring trauma. By modifying the current fixed pinning of the tourniquet belt to the ratchet tightening mechanism to a detachable hook-and-pin attachment, the hooked end of the tourniquet belt can be manually fed around the limb, and re-attached to the ratchet and tightened, rather than requiring that the tourniquet belt be fed over the end of the limb and advanced to above the wound before tightening as is the case in the current tourniquet configuration.

[0016] Yet a further object of the present invention is to provide a device with a detachable hook configuration that allows the belt to be fed cleanly around the limb and attached to the ratchet mechanism with less chance of twisting during application.

[0017] The various features of novelty that characterize the invention are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and specific objects attained by its uses, reference is made to the accompanying drawings and descriptive matter in which a preferred embodiment of the invention is illustrated.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] In the drawings:

[0019] FIG. **1**A is a drawing showing the closed one-handed loop configuration of the Combat Application Tourniquet (CAT):

[0020] FIG. **1**B is a drawing showing the open two-handed belt configuration of the Combat Application Tourniquet (CAT):

[0021] FIG. **2**A is a drawing of a traditional ratchet design with sewn junction.

[0022] FIG. **2**B is a drawing of a magnified view of the traditional ratchet design feature.

[0023] FIG. **3**A is a drawing of an embodiment of this invention demonstrating a metal hook attachment.

[0024] FIG. **3**B is a drawing of a magnified view of the metal hook attachment element of the preferred embodiment of the invention.

[0025] FIG. **4** is a drawing demonstrating the introduction of hook and belt under injured extremity.

[0026] FIG. **5** is a drawing demonstrating the retrieval of hook and advancement of belt by opposite hand.

[0027] FIG. **6** is a drawing demonstrating the attachment of metal hook and tourniquet belt to the coupling pin of ratchet-action mechanism.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0028] The preferred embodiment is an improvement of the traditional ratchet tourniquet used to stop uncontrollable bleeding from gunshot wounds and blast injuries to the arms and legs. The currently used ratchet tourniquet has one end of the belt fed through a ratchet mechanism while the other end is permanently sewn around a pin in the ratchet body (FIGS. **2**A and **2**B). In the preferred embodiment of the invention, this permanently attached end of the ratchet belt is replaced with a detachable flat metal hook, allowing the loop of the ratchet tourniquet to open up.

[0029] Referring to FIGS. **3**A and **3**B, the tourniquet device of this invention as illustrated in the various embodiments herein is generally designated as **1**. The invention has a belt **5**, with a first end **10** and second end **15**. The first end **10** of the belt **5** is engaged with a ratchet device, generally designated as **20**. The ratchet device **20** preferably includes a cylindrical spool generally designated as **25** to which the first end **10** of the belt **5** is affixed for being spooled, a lever **30**, and a ratchet-action mechanism **35** which rotates the spool in a spooling direction whenever a user operates the lever **30**. Such a ratchet-action mechanism preferably comprises of ratchet teeth **36** carried by the spool **25** and a spring-pressed holding pawl **37** to prevent reverse rotation of the spool together with a spring-pressed driving pawl (not shown) to rotate the spool in the winding direction. Alternatively, the spring-pressed holding pawl (not shown) may be replaced with a fixed lug means (not shown) to serve the function of a holding pawl and by mounting the spool **25** in a floating manner, the arrangement being such that the tension of the belt **5** urges the spool **25** into engagement with the fixed holding lug (not shown). Thus the belt **5** itself provides the yielding force that would otherwise be provided by a special spring. In the preferred embodiment, the lever **30** is operated by reciprocally rotating the lever **30** around the ratchet mechanism axis **38**. By way of nonlimiting example the ratchet mechanism comprises a pintle **40** and gudgeon **42**. The ratchet device **20** further includes an elongated arm **43** which extends from the ratchet-action mechanism **35** and has a distal end **45** integrated with a coupling pin **47**. The second end **15** of the belt **5** is engaged with a hook **50** designed to clasp with the coupling pin **47** of the elongated arm **43** of the ratchet-action mechanism **35**. In the preferred embodiment, the hook **50** further comprises an integral slot **53** through which the second end **15** of the belt is thread. The lead end **55** of the second end **15** is sewed back onto the lagging portion **58**